

for advance notice to comply with the posted speed limit ahead. These new warning signs replace the R2-5a, b, and c signs because the intended message is more properly categorized as a warning message rather than regulatory message. The FHWA received five comments from ATSSA, the City of Tucson, Arizona, and a private citizen in support of this change, and fourteen comments from several State and local DOTs opposed to the change. Those who opposed the change indicated that the existing signs are more recognized by drivers, and therefore have the desired effect of reducing speeds where needed. Although some of the opposing commenters, such as the NCUTCD and the Washington DOT, agreed that the sign should be classified as a warning rather than a regulatory sign, many still favored use of the existing signs for economic reasons or indicated disagreement with the design of the proposed signs.

The FHWA disagrees with the use of an advisory speed plaque with a word message "Reduced Speed Ahead" sign as was suggested by some commenters. This is an inappropriate use of an advisory speed plaque and would only serve to further confuse the motoring public about what the difference is between a (regulatory) speed limit and a (non-enforceable) advisory speed. The sign proposed in the NPA is the most logical and the one that best serves the public because it is consistent with other advance warning signs that warn of a specific regulation ahead, such as the symbolic Stop Ahead and Yield Ahead signs. The Canadian MUTCD<sup>17</sup> has incorporated a similar concept of speed reduction signs for several decades. The NCUTCD and the Missouri DOT felt that the proposed sign would be a maintenance burden on jurisdictions due to having to stock and carry on sign maintenance vehicles multiple versions of the Speed Reduction sign with different numerical speed values. In view of Canada's long-standing use of this concept of speed reduction sign, the FHWA believes that this has not proven to be an unreasonable maintenance burden in Canada, nor has it been an unreasonable problem for jurisdictions in the U.S. with other standard signs in the MUTCD that provide for multiple speed values or distance values, such as the R2-1 Speed Limit sign, the W12-2 Low Clearance warning sign, the W13-1

Advisory Speed Plaque, or the W13-2 and W13-3 Exit and Ramp Speed advisory signs. Clear and unambiguous advance warning of a reduced regulatory speed limit ahead is an extremely important message that warrants the use of the sign as proposed in the NPA. The FHWA adopts the language for this section, as proposed in the NPA.

To respond to comments regarding the costs associated with this change, the FHWA revises the phase-in target compliance date to 15 years from the effective date of this final rule for existing R2-5 signs in good condition to be changed to W3-5 or W3-5a signs, to minimize any impact on State or local governments.

The FHWA received several comments from the Arizona DOT and private citizens suggesting revisions to the design of the W3-5 and W3-5a signs to make them more legible from longer distances. To address these comments, the FHWA makes minor refinements to the English unit version of the W3-5 symbol sign to make the numerals 9 inches high for the 36" x 36" sign and 12 inches high for the 48" x 48" sign, and adjusts the layout slightly. The FHWA also deletes the metric alternate of the W3-5 symbol sign because the numerals on it would be too small. The only allowable metric version of the Speed Reduction Warning sign is to be the metric word message W3-5a sign.

Additionally, the FHWA includes a STANDARD statement, which requires that a Speed Reduction Warning sign be followed by a Speed Limit (R2-1) sign installed at the beginning of the zone where the speed limit applies and that the speed limit displayed on the Speed Reduction sign shall be identical to the speed limit displayed on the subsequent Speed Limit sign. This is needed to provide for uniform application of these signs. The Minnesota DOT opposed this new paragraph, indicating that Section 2B.13 Speed Limit Sign (R2-1) already states that an R2-1 sign is required. The FHWA disagrees because Section 2B.13 does not require that statutory speed limits be posted, and this new paragraph is needed because it correctly limits the use of the Speed Reduction signs to only locations that are prior to "posted" speed limits. The FHWA adopts this paragraph in this final rule.

77. In Section 2C.31 Merge Signs (W4-1, W4-5) (numbered Section 2C.28 in the NPA), the FHWA includes the addition of the new Entering Roadway Merge (W4-5) sign in the title (referred to as W4-1a in the NPA). In addition to the title change, the FHWA adds a recommendation to the GUIDANCE statement, which states that when a

Merge sign is to be installed on an entering roadway that curves before merging with the major roadway, the Entering Roadway Merge (W4-5) sign should be used. This sign is recommended for this condition because it better portrays the actual geometric conditions to road users on the entering roadway. The FHWA received three comments from the NCUTCD, ATSSA, and the City of Tucson, Arizona, in support of this change, and one comment from the Minnesota DOT opposing it. The Minnesota DOT indicated that drivers will not understand the sign, and suggested changing the W4-5 sign to an "ENTERING MERGE AREA" word sign. The FHWA disagrees and believes that this symbol sign would more accurately inform the drivers on the ramp that they must merge and adopts the change as proposed in the NPA. The FHWA establishes a phase-in target compliance date of 10 years from the effective date of this final rule for existing signs in good condition to minimize any impact on State or local governments.

78. In Section 2C.32 Added Lane Signs (W4-3, W4-6) (numbered Section 2C.29 in the NPA), the FHWA changes the title to reflect the addition of the new Entering Roadway Added Lane (W4-6) sign (referred to as W4-3a in the NPA). In addition to the title change, the FHWA adds to the GUIDANCE statement, that when an Added Lane sign is to be installed on a roadway that curves before converging with another roadway that has a tangent alignment at the point of convergence, the Entering Roadway Added Lane (W4-6) sign should be used. This sign is recommended for this condition because it better portrays the actual geometric conditions to road users on the entering roadway. The FHWA received three comments from the NCUTCD, ATSSA, and the City of Tucson, Arizona, in support of this change, and one comment from the Minnesota DOT opposing it. The Minnesota DOT stated that drivers would not understand the sign. The FHWA disagrees because the orientation of the symbol on the sign will better convey to drivers on the ramp that they are about to flow into an added lane. Also, the FHWA notes that this sign has been used in the State of Washington for the intended geometric conditions. The FHWA adopts the change, as proposed in the NPA, in this final rule. The FHWA establishes a phase-in target compliance date of 10 years from the effective date of this final rule for existing signs in good condition to

<sup>17</sup> Manual on Uniform Traffic Control Devices for Canada", 1998, and a December 2002 update, are available for purchase from the Transportation Association of Canada, at the following URL: <https://mediant.magma.ca/tacatc/bookstore/bookstore.cfm> click on "Traffic Control".